Hatchery Update

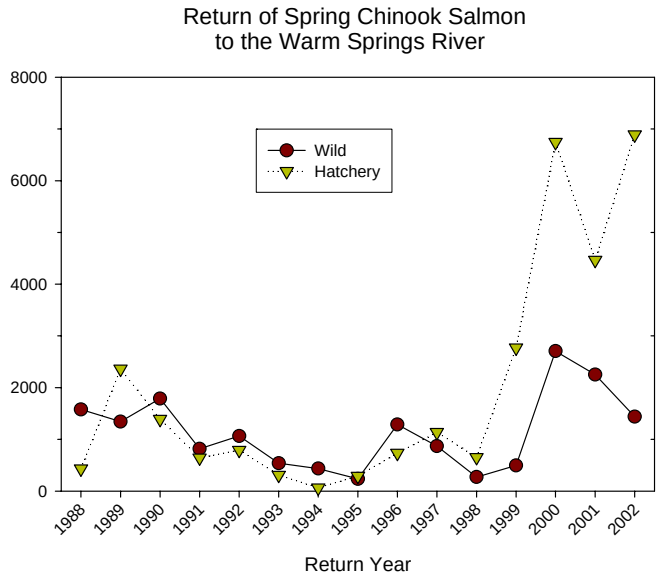
Warm Springs National Fish Hatchery

About Warm Springs National Fish Hatchery

The hatchery is located at Rkm 16 of the Warm Springs River, within the Warm Springs Reservation of Oregon. The Warm Springs River is one of two rivers in the Deschutes River subbasin that supports natural production of spring Chinook salmon (*Oncorhynchus tshawytscha*). Construction of the hatchery was authorized by an Act of Congress in 1966 and fish production began in 1978. Production from the hatchery is considered pivotal for the enhancement of spring Chinook salmon populations and meeting tribal trust responsibilities.

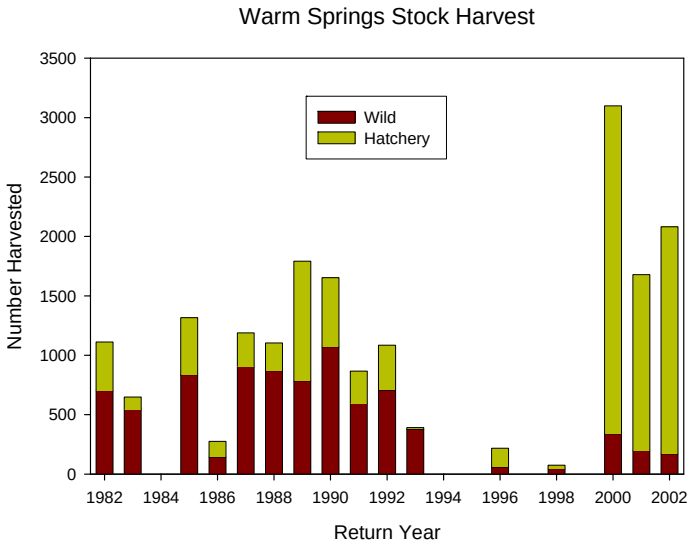
Goal

The Service and the Confederated Tribes of the Warm Springs Reservation of Oregon cooperatively manage the hatchery in a manner that will provide tribal and sport harvest opportunities, enhance the anadromous fish runs in Reservation waters, and meet the future needs of the resource as well as those of the Tribes while protecting wild fish populations. The Service and Tribes have taken an integrated approach to the management of the hatchery that focuses not only on producing fish but also on determining what effects hatchery fish have on the ecosystem into which they are released.



Objectives

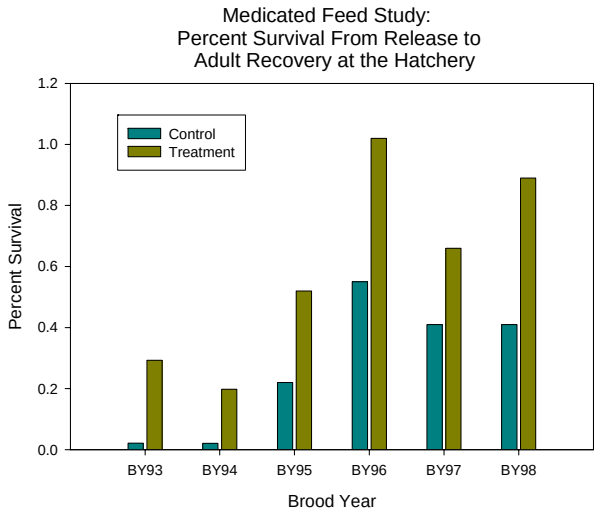
-Produce fish for tribal and sport harvest
-Maintain wild fish traits in the hatchery program
-Minimize impacts to wild fish populations
-Develop and implement a hatchery operation plan to conserve Warm Springs River fish populations



Hatchery Evaluations

All fish released from the hatchery are marked with a coded-wire tag and a fin-clip to distinguish them from wild fish. Adult returns to the hatchery and samples from both Tribal and sport fisheries in the Deschutes River are monitored to determine the survival rates and contribution to fisheries. The Service, Tribes, and their partners work together to evaluate hatchery rearing and release practices in order to determine the best way to meet hatchery production and return goals. One such evaluation looks at the effects of using a medicated fish feed on the survival, growth, and physiology of juveniles during hatchery rearing and on survival to adulthood. Other evaluations include determining the effect of varying rearing densities on fish health and survival, evaluating the effectiveness of a volitional release of juvenile fish in both the fall and the spring, monitoring the use of baffles in the rearing ponds to help flush out effluent, and developing an automated passage system in the hatchery fish-ladder to pass

wild, unmarked fish upstream while diverting returning hatchery fish into holding ponds.

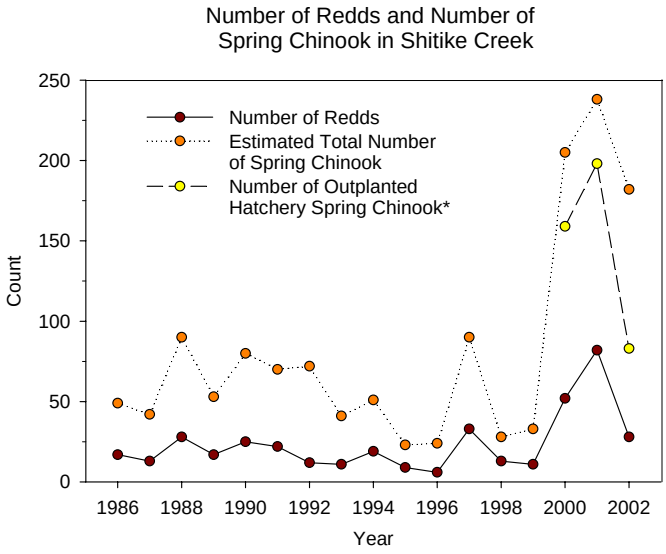


Hatchery and Wild Fish Interactions

Monitoring and evaluation programs are also in place to determine the extent of ecological interactions between fish released from the hatchery and wild fish populations in the Deschutes River subbasin. In 2000, the Tribes began using surplus adult returns to the hatchery to supplement the spring Chinook population in Shitike Creek. Adult hatchery fish are transported from the hatchery, released into the creek, and allowed to spawn naturally. A monitoring program is in place to (1) assess the distribution and behavior of adult spring Chinook salmon using radio telemetry; (2) estimate the reproductive success of hatchery-origin fish using genetic analyses; and (3) evaluate the habitat use and ecological interactions between different juvenile fish species in the stream using underwater observation techniques. Other programs include monitoring the migration timing and habitat use of juvenile fish released from the hatchery into the Deschutes subbasin and monitoring fish health and disease levels in the stream.

Outlook for the Future

The Service and the Tribes use the information gathered from the monitoring and evaluation programs to update the hatchery operations and implementation plan every five years and to identify hatchery improvement projects. Current or planned projects at the hatchery include painting the rearing ponds to mimic colorations found in the Warm Springs River, replacing the water intake screens to prevent juvenile fish from entering the facility, refining the automated fish-passage system, and operating an egg isolation unit. The Service and the Tribes believe that Warm Springs National Fish Hatchery is an example of an integrated management program that will continue to meet harvest and resource needs while minimizing impacts to wild fish populations.



*Outplanting of surplus adult hatchery fish from Warm Springs National Fish Hatchery began in 2000.

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